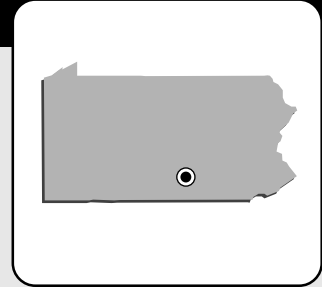


MECHANICSBURG NAVAL INVENTORY CONTROL POINT

MECHANICSBURG, PENNSYLVANIA

Engineering Field Division/Activity: NORTHDIV
 Major Claimant: COMNAVSUPSYSCOM
 Size: 824 Acres
 Funding to Date: \$16,311,000
 Estimated Funding to Complete: \$34,915,000



Base Mission: Provides inventory management of stored materials

Contaminants: Heavy metals, PCBs, pesticides, volatile and semi-volatile organic compounds

Number of Sites:		Relative Risk Ranking of Sites:			
CERCLA:	15	High:	3	Not Evaluated:	0
RCRA Corrective Action:	0	Medium:	3	Not Required:	8
RCRA UST:	0	Low:	1		
Total Sites:	15				

NPL

Sites Response Complete: 8

EXECUTIVE SUMMARY

Mechanicsburg Naval Inventory Control Point (NAVICP), formerly known as the Ships Parts Control Center (SPCC), is located in Hampden Township, at the eastern boundary of Mechanicsburg, Pennsylvania, approximately seven miles west of Harrisburg and consist of 824 acres. Development of the NAVICP installation began in 1942. The NAVICP primary mission is to provide inventory management and supply support for parts of weapon systems for Naval ships and submarines. Past defense industrial and inventory disposal contributed to the contamination of the sites on the installation. The prominent site types are disposal sites, landfills, and spill sites. Environmental investigations determined that groundwater, soil, and surface water/sediments have been contaminated with petroleum products, the chemical additive PCB, heavy metals, pesticides, volatile and semi-volatile organic compounds and dioxin. Mechanicsburg NAVICP was listed on the National Priorities List (NPL) in May 1994 based on potential migration of contaminants to the groundwater.

Contaminant migration pathways at Mechanicsburg NAVICP include surface runoff and groundwater movement. Contaminants may enter streams, groundwater discharge or the storm water collection system. Potential receptors include humans with private wells to the north and northwest of the installation and aquatic organisms that inhabit nearby streams. An Basewide Ecological Risk Assessment will be completed in FY97 to address potential receptors located in the NAVICP Mechanicsburg area.

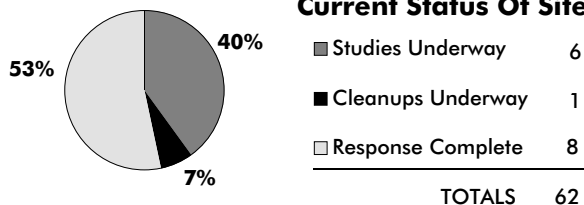
There are 15 IR sites and all 15 are CERCLA sites. Seven sites were identified during the Initial Assessment Study (IAS), equivalent to a Preliminary Assessment (PA), which was completed in FY84. The Navy conducted a Site Inspection (SI) in FY89-FY91, which included the seven sites identified in the IAS and four additional sites. The EPA had conducted a RCRA Facilities Assessment (RFA) in FY89, in which a total of 68 Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) were identified. Of these 68 SWMUs, 11 were previously identified Installation Restoration (IR) sites. Although the RFA was completed in March 1989, the Navy did not receive a

copy until late 1994. Four of the SWMUs were added to the IR program, as Sites 12-15, in FY95. A Remedial Investigation (RI) was conducted for four sites, which included Site 9 (the Storm Water Drainage Ditch) in FY89 and Sites 1, 3 and 7 in FY93. An RI is planned for Sites 3, 12-15 in FY97. Feasibility Studies (FSs) and Remedial Designs (RDs) were prepared for four sites (Sites 1, 3, 9 and 12). Extended Site Inspections (ESIs) were conducted and the Navy prepared No Further Action (NFA) Decision Documents (NFADDs) for Sites 4 (FY96) and 5 (FY95). Three additional NFADDs were completed for Sites 2, 6 and 8, in FY93. Response is complete on 8 sites (Sites 2,5, 6,8,10 before FY95 and Sites 1,4,7 in FY96).

A major undertaking in the cleanup program at Mechanicsburg NAVICP is an Interim Remedial Action (IRA) for soil removal and treatment at Site 3 (Ball Road Landfill and Burn Pits). It was started in FY93 and completed in FY96. Contaminated soil was removed at the burn pits. A bioremediation process was used primarily for petroleum products and organic compounds. Additional treatment processes are being discussed with regulators to address all contaminants of concern. If the ongoing negotiations for cleanup levels can be achieved, the Navy plans to return the treated soil to the site. Returning the soil would thereby save the costs for disposal and fill material, and ultimately save landfill space.

The cleanup of Site 9 has been very aggressive. Site 9, the storm water drainage ditch has contamination present in soil and sediment. The Record of Decision (ROD) for the site outlined several remedial actions to be taken. The first action, completed in April 1991, was excavation of contaminated soil from segment 1. The second action, for fencing off the site, was completed in June 1991. The third action was for the installation of a gabion dam, completed in November 1991. The fourth action, for removal of "hot spots" of contaminated sediment from segment 3, was completed in February 1993. The fifth action, completed in December 1993, was to remove contaminated sediment from Sub-basin E of the storm water system, a source of contamination in the ditch. Site 9 is scheduled for final cleanup and Response Complete in FY98.

Current Status Of Sites



MECHANICSBURG NAVICP RELEVANT ISSUES

ENVIRONMENTAL RISK



HYDROGEOLOGY - The NAVICP is located in the Cumberland Valley within the Susquehanna River basin, south of the Conodoguinet Creek and north of Yellow Breeches Creek. The region is typified by the presence of sink holes, poorly drained depressions and disappearing surface streams. Contaminant migration pathways at Mechanicsburg NAVICP include surface runoff and groundwater movement. Contaminants may enter streams through groundwater discharge or the storm water collection system. Most surface runoff on the activity is collected by the storm drainage system and discharged to an open drainage ditch, which discharges to Trindle Spring Run and finally into the Conodoguinet Creek. Surface water flow is seasonal, high during peak rainfall and dry in summer and fall. The uppermost groundwater aquifer under the installation is unconfined and largely restricted to the area's carbonate rocks. Groundwater flow rates and directions at the facility are largely controlled by fractures, faults, and joints. It is possible that contaminants may enter and migrate along these fractures to private wells north and northwest of the facility, Trindle Spring Run, Conodoguinet Creek and other wells.



NATURAL RESOURCES - Potential receptors include humans with private wells to the north and northwest of the installation and aquatic organisms that inhabit Trindle Spring Run and underground streams and ponds. Although the surrounding area supports a diverse community of birds, amphibians, reptiles and mammals, due to the high amount of land development, there are few animals actually living on the installation. There are no aquatic ecosystems on the installation property. There are no known species that have been designated as endangered or threatened by the federal and state authorities located in the area of NAVICP Mechanicsburg.



RISK - A Human and Health Risk Assessment was accomplished for Sites 1 and 9 in FY90. A base-wide Ecological Risk Assessment (ERA) is underway in FY97.

The Department of Defense (DOD's) Relative Risk Ranking system was used to rank the risk factors for all the sites on the installation in FY95. Three of the CERCLA sites were determined to have a high ranking, three have a medium ranking, and one low ranking. Three of the high risk scores were due to contaminated groundwater, in addition, Site 3 was high for contaminated soil. The reason for the high rankings of the groundwater is that it has the potential for reaching off site wells. Few of the nearby wells are used for drinking water. Site 9, the Storm Water Drainage Ditch, has the potential for contaminating a nearby stream, Trindle Spring Run, where there could be both human and ecological receptors.

The Agency for Toxic Substance and Disease Registry (ATSDR) completed an initial site visit on April 16-18 1996 to perform a Public Health Assessment for the installation. ATSDR issued NAVICP a "D" ranking. This means that NAVICP has a low priority to receive a ATSDR health assessment in FY97.

REGULATORY ISSUES



NATIONAL PRIORITIES LIST - NAVICP Mechanicsburg was proposed for inclusion on the National Priorities List (NPL) January 18, 1994 and was listed in May 1994, with an HRS score of 50.00. A potential for migration of hazardous materials into the groundwater at five sites; (Sites 1-3, 5 and 7) was the factor which drove the placement of the installation on the NPL.



LEGAL AGREEMENTS - The Navy, EPA and Pennsylvania Department of Environmental Protection (PADEP) are currently working on a rough draft of a Federal Facility Agreement (FFA) for Mechanicsburg NAVICP. It is scheduled to be completed and in place in FY98. The Site Management Plan (SMP) is also being drafted and should be complete in FY98.

COMMUNITY INVOLVEMENT



RESTORATION ADVISORY BOARD - The Technical Review Committee (TRC), formed in FY88, has helped foster good working relationships between the regulatory agencies, local municipalities, and the Navy. To update the public on cleanup progress, the TRC sponsored a media day highlighting a cleanup project. For greater community involvement a Restoration Advisory Board (RAB) was formed. About 20 RAB members from the community attend the bimonthly meetings. A publicly available Information Repository is located at the Mechanicsburg Public Library.



COMMUNITY RELATIONS PLAN - The Community Relations Plan (CRP) was completed in December 1992. In 1997 interviews were conducted for the updated Community Relation Plan due for completion in FY98.



INFORMATION REPOSITORY - An Administrative Record and an Information Repository for the installation were established in September 1988. A copy of the Administrative Record is in the Information Repository, which is available for public viewing at the NAVICP, Safety, Health and Environment Division and also at a public library in Mechanicsburg.

HISTORICAL PROGRESS

FY84

Sites 1-7 - Were identified in September 1984, during the Initial Assessment Study (IAS), equivalent to a Preliminary Assessment (PA) conducted under CERCLA guidelines. At the time of the IAS, three sites (Sites 1, 2 and 6) were determined not to pose a threat to human health or the environment and were not recommended for further investigation. Later, Sites 1 and 2 were re-added and have continued with the Installation Restoration (IR) phases. Four sites (Sites 3-5 and 7) were recommended for further investigation.

FY85

Sites 8-11 - Four sites were identified after the IAS.

FY88

Sites 1-5, 7, 8, 10 and 11 - Site Inspection (SI) was started at nine sites. **Site 9** - Polychlorinated Biphenyls (PCBs) a chemical added to oils, were discovered in sediment deposits in Site 9, the Storm Water Drainage Ditch.

The site was not included in the SI but a Remedial Investigation/ Feasibility Study (RI/FS) was started.

FY89

Site 9 - The RI/FS was completed. The RI/FS determined that PCBs in the storm water drainage ditch were a result of past disposal practices at the installation.

FY90

Site 9 - Remedial Design (RD) phase was started.

FY91

Sites 1-3, 5, 7, 8 and 11 - An SI was completed for seven sites in October 1990. The SI detected; chlorinated hydrocarbons at Site 1; petroleum products, volatile organic compounds, pesticides, PCBs, and metals at Site 3; subsurface anomalies confirming the potential for buried materials at Site 4 and chlorinated hydrocarbons at Site 7.

MECHANICSBURG NAVICP HISTORICAL PROGRESS

Site 9 - Removal actions completed at Site 9 included; removal of contaminated soil from segment 1, providing fencing, and installing gabion dams.
Site 10 - Completed RD phase and started Remedial Action (RA) phase for a Final Remedial Action (FRA), which consisted of removal of leaking Underground Storage Tanks (USTs) and associated contaminated soil.

FY92

Sites 1, 3 and 7 - An RI/FS was started for Sites 1, 3 and 7.
Site 4 - Two separate soil excavations were conducted at Site 4 (Radioactive Waste Disposal Area). No evidence of radioactive contamination was found, and therefore, a No Further Action (NFA) decision was recommended for this site.
Site 5 - An Extended Site Inspection (ESI) was completed in September 1992 and concluded that further investigation under an RI/FS was not warranted.
Site 9 - The RD for a PCB "hot spot" removal was completed and awarded.
Site 10 - The RA phase and an FRA for tank removal were completed.

FY93

Site 3 - An IRA began in September 1993 and is scheduled to be complete in FY96. The IRA consists of removal of contaminated soil at the Burn Pits followed by bioremediation of contaminated soil. State and federal regulatory agencies are in ongoing discussions to determine additional treatment processes to be used for the soil.
Site 7 - The RI/FS was completed in March 1993 and recommended for NFA.
Site 9 - A Remedial Design (RD) phase at Site 9 was completed. Long Term Monitoring (LTM) started in June 93 and will continue through FY98. The second annual groundwater sampling and analysis was performed. The soil and sediment monitoring plan and initial sampling was completed. Contaminated soil and sediment were removed from a "hot spot" in segment 3. Contaminated soil was removed from sub-basin E of the Storm Water Drainage Ditch, a source of contamination for the ditch.
Site 10 - An ESI for Site 10 was completed and recommended for NFA.

FY94

Site 9 - The third annual groundwater sampling and analysis work was performed. The first annual soil and sediment monitoring work was performed. The water budget study, completed in April 1994, concluded that the Pennsylvania Department of Environmental Protection (PADEP) request for the Navy to fill sinkholes in the storm water drainage system ditch would cause flooding and sediment deposition downstream. This report helped settle the lawsuit between the Navy and the state.
Site 10 - The Navy continued to monitor hydrocarbon levels in groundwater, at the request of the state. Quarterly monitoring was performed for one year.

FY95

Basewide - A Time Critical Removal Action (TCRA) was initiated at the Tredegar Industries, Inc. property adjacent to NAVICP. The removal action removed approximately 600 tons of PCB contaminated soil.
Site 3 - The Interim Remedial Action (IRA) for bioremediation of contaminated soil continued. Sampling for additional contaminants of concern and monitoring of bioremediation was done.
Site 4 - The EPA concurred with the Navy's NFADD.
Sites 12-15 - These sites were added due the findings of the RCRA Facility Assessment (RFA).

FY96

Base-wide - Began a base-wide Ecological Risk Assessment. Started work on the Site Management Plan.
Site 4 - Completed PA/SI.
Sites 1 and 9 - Completed RI/FS.
Site 3 - Completed RI/FS FIELD work. This work included sampling the Biocell, 5000 cubic yard pile and the unexcavated area. Performed groundwater modeling for the design of a landfill. Tasked contractor to perform a focus feasibility study. RAC contractor performed site maintenance for ongoing bioremediation.
Sites 3 and 12-15 - Completed the draft RI work plan for higher regulatory priority.
Sites 1, 4 and 7 - Response Complete.

PROGRESS DURING FISCAL YEAR 1997

FY97

Basewide - Completed the Ecological Risk Assessment fieldwork; Continued negotiations with EPA to reach a final Federal Facility Agreement in FY 98.
Sites 12-15 - Completed the SI Workplan and fieldwork.
Site 1 - Complete the Human Health Assessment and PRAP

Site 11 - Completed an EE/CA, Action Memorandum and IRA for a sediment control project in FY98.
 Continue negotiations for Federal Facilities Agreement.
Site 3 - Completed workplan and field work for groundwater sampling.
Site 9 - Continued annual monitoring for sediment and groundwater.

PLANS FOR FISCAL YEARS 1998 AND 1999

FY98

Site 1 - Complete no further action ROD.
Site 9 - Groundwater LTM will continue. Soil and sediment LTM will continue.
Sites 12-15 - Complete the SI report. Begin RI scope of work if necessary.
Basewide - Complete the SMP and FFA.
Sites 13, 14 and 15 - complete PA/SI planned.
Site 11 - Complete Removal Action.

FY99

Site 3 - Complete RA for soil.
Site 9 - Groundwater LTM will continue. Soil and sediment LTM will continue.
Site 12-15 - Begin RI/FS Workplan and field work.
Basewide - Begin basewide groundwater investigation.
Sites 1 and 3 - Complete RI/FS.
Sites 3 - Complete RD.
Site 3 - Complete Removal Action.
Site 1 - Response Complete planned.

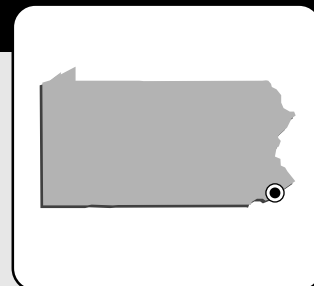
MECHANICSBURG NAVICP PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	10		3					
RI / FS	2			2			3	1
RD	1			1				5
RAC	1							6
RAO								
IRA	4(9)		1(1)	1(1)				
RC	8			1				6
Cumulative % RC	53%	53%	53%	60%	60%	60%	60%	100%

PHILADELPHIA NAVAL AVIATION SUPPLY OFFICE

PHILADELPHIA, PENNSYLVANIA

Engineering Field Division/Activity: NORTHDIV
 Major Claimant: COMNAVSUPSYSCOM
 Size: 134 Acres
 Funding to Date: \$0
 Estimated Funding to Complete: \$263,000



Base Mission: Provides supply and support to aviation units.

Contaminants: POLs

Number of Sites:

CERCLA: 0
 RCRA Corrective Action: 0
 RCRA UST: 1
 Total Sites: 1

Relative Risk Ranking of Sites:

High: 0 Not Evaluated: 1
 Medium: 0 Not Required: 0
 Low: 0

Sites Response Complete: 0	

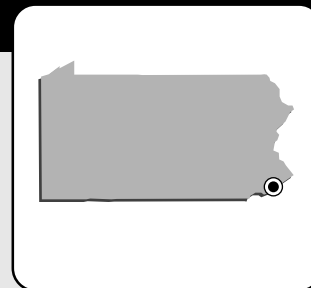
PROGRESS AND PLANS

UST	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
SA								
CAP				1				
DES								
IMP				1				
IMO								
IRA								
RC				1				
Cumulative % RC	0%	0%	0%	100%	100%	100%	100%	100%

PHILADELPHIA NAVAL COMPLEX

PHILADELPHIA, PENNSYLVANIA

Engineering Field Division/Activity: NORTHDIV
 Major Claimant: COMNAVFACENGCOM
 Size: 1,153 Acres
 Funding to Date: \$18,277,000
 Estimated Funding to Complete: \$1,175,000



Base Mission: Closed; NAVFAC is caretaker until transfer. Previously provided general and specialized clinical hospitalization services to active duty members of the armed forces and their dependents; provided logistical support for ships and service craft: overhauled, repaired and outfitted ships and craft; research

Contaminants: Heavy metals, PCBs, POLs, solvents, volatile organic compounds

Number of Sites:	Relative Risk Ranking of Sites:				
CERCLA:	10	High:	0	Not Evaluated:	0
RCRA Corrective Action:	12	Medium:	3	Not Required:	27
RCRA UST:	8	Low:	0		
Total Sites:	30				

BRAC I, II

Sites Response Complete: 27

EXECUTIVE SUMMARY

The Philadelphia Naval Complex includes the Philadelphia Naval Hospital (NAVHOSP), the Philadelphia Naval Station (NAVSTA) and the Philadelphia Naval Shipyard (PNSY). Base Realignment and Closure (BRAC) of 1988 and 1990 mandated the closure of NAVHOSP and NAVSTA respectively, and placed the PNSY in a closed and preserved status. In 1995, BRAC IV excessed the PNSY property previously identified for preserved status and not required to support the remaining activities.

The Philadelphia Naval Complex is located at the confluence of the Delaware and Schuylkill Rivers. The property identified for disposal encompasses 1,153 acres, with PNSY accounting for 266 acres and Naval Base (NAVBASE) 979 acres (NAVBASE owned the land while NAVSTA owned most of the buildings; henceforth, all lands and buildings will be referred to as NAVBASE). The former NAVBASE includes the Capehart Housing (13 acres) area. Another off-base parcel is the former Hospital (49 acres) and its supporting buildings. The BRAC 95 "footprint" has been developed to segregate retained property from excess property. The retained land is identified as Naval Surface Warfare Center, Carderock Division - Ships Systems Engineering Station (NSWCCD-SSSES), includes the Norfolk Naval Shipyard Detachment (NNSY-DET) Naval Foundry and Propeller Center; certain waterfront facilities under the cognizance of the Naval Inactive Ship Maintenance Facility (NISMF); Public Works Center San Francisco Detachment Philadelphia (PWC DET); the Naval Bureau of Medicine (BUMED); and the Naval Fleet and Industrial Supply Center (FISC).

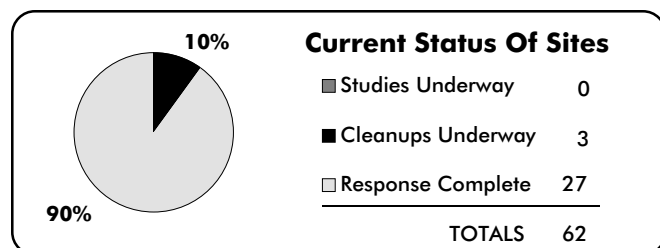
The Philadelphia Naval Complex is not listed on the NPL, and does not require a Federal Facilities Agreement (FFA). However, all Remedial Investigations (RIs), studies, designs, and Remedial Actions (RAs) are being conducted in cooperation with EPA Region III and the Pennsylvania Department of Environmental Protection. Currently there are 30 sites; 10 sites are classified as CERCLA, 12 are RCRA CA, and eight are USTs sites. An Initial Assessment Study (IAS) was completed in July 1983. Subsequent confirmation studies in 1986, 1987 and 1988 identified an additional four

sites, Sites 3, 6, 7 and 15, referred to as PCB Sites, underwent an Remedial Investigation/Feasibility Study (RI/FS) and were under a Record of Decision (ROD). Two phases of remedial action were required. An amended ROD was signed in 1995 to revise the second phase. This amended ROD saved approximately \$1.4 million in remedial costs. The remediation at Sites 3, 6, 7 and 15 is completed, and 13 sites are Response Complete.

IR Sites 1 and 2 are dredge spoils and construction debris disposal areas and are contaminated with heavy metals and sandblasting grit. While the RI for these sites is in its final stage, a removal action is being conducted to remove the sandblasting grit and construction debris. This removal action is expected to result in no further action for the sites.

IR Sites 4 and 5 are landfill areas contaminated with asbestos, sandblasting grit, heavy metals, and construction debris. In 1994 a removal action stabilized the river bank along Site 4, and a similar removal action has begun along Site 5. The sites are in the RI Phase, and final remediation of these Sites is expected early FY 1998. Sites 9, 12, and 14 were transferred to the State's Petroleum Cleanup Program, and Sites 10 and 11 were closed out.

In 1991, EPA conducted a RCRA Facility Assessment (RFA) and produced a draft report which identified 167 Solid Waste Management Units (SWMUs) and 15 Areas of Concern (AOCs). Fifteen of these SWMUs are known to have had releases into the environment, and have proceeded into an expanded investigation. One of these 15 SWMUs have been transferred to the State's Petroleum Cleanup Program, one has been completely remediated, and five have been proposed for no further action. Risk Assessments will be accomplished on the remaining SWMUs.



PHILADELPHIA NAVAL COMPLEX RELEVANT ISSUES

ENVIRONMENTAL RISK



HYDROGEOLOGY - Philadelphia Naval Complex is located on what originally was known as League Island. This island and the Philadelphia area lie within the Atlantic Coastal Plain Physiographic Province. Much of the original topography has been extensively altered through filling operations. These filling operations have connected the island to the mainland and expanded the island into the river in several places. The soil types at Philadelphia Naval Complex have been classified by the Soil Conservation Service as urban land. The fill material consists of sand, gravel, rubbish, garbage, cinders and similar material in excess of five feet thick throughout much of the complex. The hospital property is also located on altered wetland. The Delaware River forms the southern and eastern boundaries of the NAVBASE and PNSY, while the Schuylkill River forms the western boundary. Surface drainage flows directly into the Delaware River, the Schuylkill River or into the Naval Reserve Basin, which drains into the Schuylkill River. Tidal fluctuations from both rivers and the Atlantic salt wedges have extended upstream past the facility. Underlying the area is the Potomac-Raritan-Magothy aquifer system. This system consists of a sequence of fluvial and estuarine sedimentary strata which accumulated on the metamorphic basement rock. This aquifer system yields three separate aquifers at different depths.



NATURAL RESOURCES - A draft Environmental Impact Statement (EIS) for the disposal and reuse of the excess portion of the NAVBASE was available to the public in January 1996. A public hearing on the draft EIS was held in January 1996. The final EIS was filed in June 1996 and the Record of Decision (ROD) was completed in FY97. No significant issues have been identified to date. The compliance process required by Section 106 of the National Historical Preservation Act is underway and should be completed at the same time as the ROD. Two endangered species have been identified in the area: the Peregrine Falcon and the Short-nose Sturgeon. The cultural survey report, finalized in 1994 found the following: three archeological sites with potential for eligibility on the National Register of Historic Places: a World War I Barracks site, a structure of unknown origin/use at the south end of the Marine Corps Parade Grounds, and an area surrounding Quarter A. The survey also found two National Register-eligible historic districts with 2,287 contributing buildings, structures and objects. Two buildings, Building 100 Marine Barracks, and the Commandant Quarters, Quarters A at NAVBASE are listed on the National Register of Historic Places with two others eligible and under consideration. Presently, the Pennsylvania State Historic Preservation Officer is reviewing the reports. The final cultural survey report of the Hospital parcel was completed in 1993 with the recommendation that the entire site, 47 buildings, be declared a National Register-eligible historic district. There are no potential significant archeological sites at the Hospital.



RISK - Human health risk assessment and ecological screens are being done at a number of sites. Of the sites evaluated, three are ranked "Medium" under the Department of Defense (DOD) Relative Risk Ranking System.

REGULATORY ISSUES



NATIONAL PRIORITIES LIST - Philadelphia Naval Complex is not on the NPL, thus no comprehensive Agency for Toxic Substance and Disease Registry (ATSDR) Public Health Assessment was done.



LEGAL AGREEMENTS - A ROD for Sites 3, 6, 7 and 15 was signed in February 1992. An amended ROD for these sites was signed in December 1995. An Action Memorandum to implement bank stabilization at Site 4 was finalized in November 1993, and an Action Memorandum to remove blasting grits and debris was signed in August 1995.



PARTNERING - A partnering agreement has been developed and signed by BRAC Cleanup Team (BCT) members. The members include: Naval Facilities Engineering Command (NAVFAC) Northern Division (NORTHDIV), Environmental Protection Agency (EPA) Region III, and the Commonwealth of Pennsylvania Department of Environmental Protection (PADEP).

COMMUNITY INVOLVEMENT



RESTORATION ADVISORY BOARD - In February 1994, a Restoration Advisory Board (RAB) was established, and is chaired by the BRAC Environmental Coordinator (BEC) and a representative from the community. Meetings have been held monthly since its inception, and are advertised in the local newspaper.



COMMUNITY RELATIONS PLAN - The Community Relations Plan (CRP) was issued in February 1995 and is being updated on a semi-annual basis.



INFORMATION REPOSITORY - An Information Repository was established at the Free Public Library of Philadelphia, Passyunk Branch, 20th and Shunk Streets.

BASE REALIGNMENT AND CLOSURE



BRAC - In FY94, an Environmental Baseline Survey (EBS) for the Hospital was completed. Two EBSs for the PNSY and the NAVBASE were completed in FY95. None of the property was identified in accordance with the Community Environmental Response Facilitation Act (CERFA) as uncontaminated. However, property was identified as transferable in accordance with CERCLA. The Navy conducted an EBS Phase II investigation which required a study of 57 areas at the Philadelphia Naval Complex. Currently 21 areas have been identified for further evaluation.



BRAC CLEANUP TEAM - The BRAC Cleanup Team (BCT) was formed in November 1993 and continues to expedite the review process and facilitate communication between its members through weekly meetings. The weekly meetings include a representative from the Local Reuse Authority (LRA) and members of the project cleanup team.



DOCUMENTS - A BRAC Cleanup Plan (BCP) was prepared in March 1994. The plan was revised extensively in March 1995, and it is currently undergoing its annual revision to include new information and status of the properties. Three Environmental Baseline Survey (EBS) reports were prepared by NORTHDIV. The final report for the Hospital was completed in June 1994, and the final reports for PNSY and NAVBASE were issued in December 1994. The EBS was done in accordance with DOD and ASTM guidelines. The results identified 57 review items.

The EBS Phase II work plan was prepared and implemented for the 31 sites in Categories 2 and 3 in January 1995. The results have been reviewed by the BCT. Twenty-one (21) of these sites were reviewed for Category 4, 14 were either closed-out based on additional investigation or addressed by another environmental program. The remaining eight sites (one item was divided and counted twice) required further investigation and/or surface cleaning, waste removal, or other action.

Environmental Conditions of Property Classification

1	2	3	4	5	6	7
0	627	8	0	8	83	148
acres	acres	acres	acres	acres	acres	acres

PHILADELPHIA NAVAL COMPLEX RELEVANT ISSUES



LEASE/TRANSFER - Property transfer in the excess areas of the Naval Complex will be performed by deed. Within the retained area, a master leasing agreement has been established. When the City expresses interest in a particular building, Northern Division performs a site-specific Environmental Baseline Survey. A Finding of Suitability for Lease (FOSL) is then issued and when approved, the lease is executed. The first sublease took effect on 1 May 1994.



REUSE - The disposal of the NAVHOSP and NAVBASE properties has been implemented in accordance with the Community Reuse Plan. This plan was developed by the City of Philadelphia, Office of Defense Conversion. The City of Philadelphia Office of Defense Conversion has issued reuse plans for the Philadelphia Complex in two parts. A plan for the hospital was issued in 1993, while the plan for the remainder of the complex (NAVBASE, PNSY and the Capehart housing area) was completed in September 1994. PNSY and NAVBASE have been

divided into four areas for future development purposes. They are as follows: The Shipyard area's primary role will be providing locations for heavy industries. As part of BRAC IV, a significant portion of the PNSY is now planned for disposal rather than preservation. The LRA is revising the reuse plan and seeking tenants that would continue the shipbuilding/refitting or similar functions historically associated with the Philadelphia Naval Complex. The League Island Center Parcel is projected for research and development, educational, light industrial and commercial facilities and administrative facilities. The Girard Point Industrial Park is envisioned as an industrial and distribution warehouse area. The East End Commercial Park will accommodate an intermodal transportation facility. A waterfront park is planned along the Delaware River. The Capehart Housing area is to remain residential, and the redevelopment plan foresees the parcel being sold to a private developer. The NAVHOSP reuse includes townhouses, a park, and a parking lot.

HISTORICAL PROGRESS

FY83

Sites 1-15 - An IAS, similar to a Preliminary Assessment (PA), and subsequent confirmation studies in 1986-1987 were performed for the NSWC and the PNSY. One UST site (Site 009) and fourteen CERCLA sites were identified.

FY87

Sites 1-8 and 12-15 (PNSY) - A Site Inspection (SI) was completed.

FY90

Sites 3, 6 and 15 - A Remedial Investigation/Feasibility Study (RI/FS) was completed.

USTs 4 and 5 (PNSY) - The Initial Site Characterization (ISC) was completed.

Site 7 (PNSY) - The RI/FS was completed.

FY91

Site 3 (PNSY) - An Interim Remedial Action (IRA) was completed.

USTs 1 and 2 (PNSY) - ISC phase was completed.

UST 4 (PNSY) - Corrective Action Plan (CAP) was completed.

FY93

UST 1 (NAVHOSP) - The ISC was completed, the RI/FS is in progress, and is expected to be completed in FY96.

UST 2 (NAVHOSP) - The PA was completed.

FY94

UST 3 (PNSY) - The ISC was completed.

FY95

UST 2 (NAVHOSP) - CAP was completed, and the corrective action Design (DES) was completed.

Site 6 (PNSY) - Remedial Design (RD) was completed.

Site 4 (PNSY) - An IRA was completed. The river bank was stabilized to prevent the corrosion of the existing waterfront landfill.

Sites 1 and 2 (PNSY) - IRAs were initiated to remove asbestos, debris and blasting grits.

UST 6 - The ISC was completed.

USTs 1, 2 and 4 - The CAPs were completed.

UST 4 - DES was completed.

SWMUs 1-16 - An RFA identified 16 SWMUs that require remediation. RFI was completed for SWMUs 5 and 13.

Site 7 (NSWC) - RD was completed.

SWMU 15 - Determined to require NFA.

FY96

Sites 1, 2 and 5 (NS) - Completed one phase of a (IRA) removal action to remove construction debris and a second phase was started to remove sandblasting grit. This is expected to results in no further action.

Site 15 (NS) - Remedial Design was completed.

Sites 3, 6 and 15 (NS) - Remedial action is complete and site 6 was closed out.

Sites 4 and 5 (NS) - RI/FS phase continued. Another removal action was initiated to stabilize the river bank along site 5.

SWMUs 5 and 14 (NS) - RCRA RFI/CMI completed and SWMU 5 had a RFI completed.

USTs 3 and 4 (NS) - Implementation is underway.

Sites 3 and 6, 15 (NS) - Response Complete and is expected to be closed out.

USTs 1 and 2 (NH) - IMP was completed. Sites Response Complete.

Site 12 (PNSY) - Removal action was initiated and is on-going to remove free product, and a site characterization is underway.

SWMUs 3, 4, 6, 11 and 14 (PNSY) - has completed an RCRA RFI/CMS.

SWMU 5 (PNSY) - CMI was completed.

SWMUs 4, 6 and 11 (PNSY) - Sites Response Complete.

UST 1 (PNSY) - IMP was completed. Site Response Complete.

UST 3 (PNSY) - Design Completed

USTs 1 and 3 (PNSY) - CAP Completed.

Site 7 (NSWCCD) - Site Response Complete and the site closed out.

Site 8 (NSWCCD) - Ecological screen (RI/FS) was initiated to evaluate the risk of contaminated sediments.

Site 9 (NSWCCD) - A MILCON project removed contaminated solid soil from area, and site characterization was initiated

Site 14 (NSWCCD) - Site characterization was drafted and it appears no further action will be required.

SWMU 2 (NSWCCD) - RFI completed.

SWMUs 15 and 16 - RFI completed. Sites are Response Complete with no further action expected.

Basewide - Environmental concerns continued to focus on the east side of the base. Also, remedy was complete for one UST. Remediation began at SWMU 13 to decontaminate the incinerator and remove the stack. Removal of the stack is currently on hold pending historic recordation and Pennsylvania State Historic Preservation Officer approval of the work as part of the National Historic Preservation Act.

PHILADELPHIA NAVAL COMPLEX PROGRESS DURING FISCAL YEAR 1997

FY97

NAVSTA
Site 1 - Remedial Action Complete
Sites 4 and 5 - Remedial Design initiated.
UST 0004 - Implementation Complete

PNSY
Site 12 - Remedial Design underway
UST 0001 - Long Term Monitoring (LTM) completed.

PLANS FOR FISCAL YEARS 1998 AND 1999

FY98 - FY99

NAVSTA
Site 2 - Remedial Action Complete
Sites 4 and 5 - Remedial Action complete and Long Term Operations (LTO) initiated.
Site 13 - Implementation complete
SWMUs 0007, 0008, 0009, 0012 and 0014 - Corrective Measures Implementation (CMI) complete.
UST 0003 - Implementation complete and LTO underway.

PNSY
Site 12 - Initiate Remedial Action
SWMUs 0003 and 0010 - Remedial Action complete.

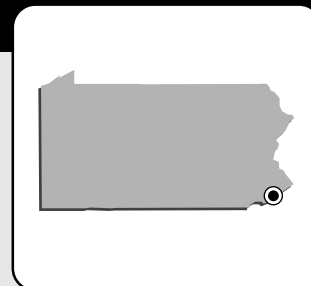
PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	10							
RI / FS	6	2						
RD	3	2						
RAC	4	4						
RAO								2
IRA	7(7)	1(1)						
RC	6	2						2
Cumulative % RC	60%	80%	80%	80%	80%	80%	80%	100%
RCRA CA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
RFA	12							
RFI / CMS	6	4						
DES		1						
CMI	1	8						
CMO								
IRA								
RC	4	8						
Cumulative % RC	33%	100%	100%	100%	100%	100%	100%	100%
UST	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
SA	2							
CAP	6							
DES	3	1						
IMP	5	1	1					
IMO						1		
IRA		2(2)						
RC	6	1				1		
Cumulative % RC	75%	88%	88%	88%	88%	100%	100%	100%

PHILADELPHIA NAVAL SURFACE WARFARE CENTER, CARDEROCK DIVISION

PHILADELPHIA, PENNSYLVANIA

Engineering Field Division/Activity: NORTHDIV
 Major Claimant: COMNAVSEASYSOM
 Size: 20 Acres
 Funding to Date: \$7,015,000
 Estimated Funding to Complete: \$1,412,000



Base Mission: Ensure operational readiness of U.S. and Allied Forces by providing full spectrum technical capabilities necessary to rapidly transition and Energetics product from concept through product to operational employment

Contaminants: Heavy metals, PCBs, POLs

Number of Sites:

CERCLA: 3
 RCRA Corrective Action: 4
 RCRA UST: 3
 Total Sites: 10

Relative Risk Ranking of Sites:

High: 0 Not Evaluated: 1
 Medium: 3 Not Required: 6
 Low: 0

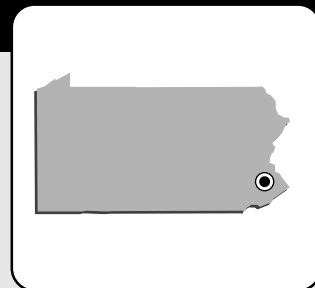
Sites Response Complete: 6	

PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	3							
RI / FS	2					1		
RD	1							
RAC	1							
RAO								
IRA								
RC	2					1		
Cumulative % RC	67%	67%	67%	67%	67%	100%	100%	100%
RCRA CA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
RFA	3	1						
RFI / CMS	1		1					
DES						1		
CMI							1	
CMO								1
IRA				1(1)				
RC	3							1
Cumulative % RC	75%	75%	75%	75%	75%	75%	75%	100%
UST	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
SA		2						
CAP		1		2				
DES								
IMP				1	1			
IMO								
IRA								
RC		1		1	1			
Cumulative % RC	0%	33%	33%	67%	100%	100%	100%	100%

WARMINSTER NAVAL AIR WARFARE CENTER AIRCRAFT DIVISION WARMINSTER, PENNSYLVANIA

Engineering Field Division/Activity: NORTHDIV
Major Claimant: COMNAVFACENGCOM
Size: 818 Acres
Funding to Date: \$13,118,000
Estimated Funding to Complete: \$13,991,000



Base Mission: Closed; NAVFAC is caretaker until transfer. Previously provided research and development for Naval aircraft systems, antisubmarine warfare systems and the associated computer software

Contaminants: Firing range wastes, fuels, heavy metals, industrial wastewater sludges, non-industrial solid wastes, paint, PCBs, sewage treatment sludge, solvents, unspecified chemicals, volatile organic compounds

Number of Sites:	Relative Risk Ranking of Sites:		
CERCLA:	9	High:	8
RCRA Corrective Action:	0	Medium:	1
RCRA UST:	1	Low:	0
Total Sites:	10		

NPL
BRAC II
Sites Response Complete: 1

EXECUTIVE SUMMARY

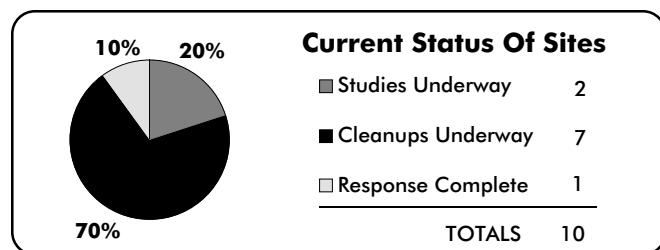
Warminster Naval Air Warfare Center (NAWC) is in Warminster Township, Bucks County, Pennsylvania and consist of 818 acres. The installation was commissioned in 1944 as the Naval Air Development Center. The mission is research, development, testing, and evaluation for Naval aircraft systems. Studies are also conducted in antisubmarine warfare systems and software development. Past operations include aircraft maintenance and repair, pest control, fire-fighting training, machine and plating shops, spray painting, and various materials research and testing. Wastes generated include paints, solvents, industrial wastewater treatment sludge, and waste oils. In 1979, Volatile Organic Compounds (VOCs), primarily the organic solvents TCE and PCE and metals were detected in groundwater wells. In 1980, the Navy began a study of contaminated waste disposal sites under the Naval Assessment and Control of Installation Pollutants (NACIP) program. In the early 1980's, TCE in the groundwater was suspected of causing birth defects in the area. A survey conducted by the Health Department concluded the birth defect rate was within the normal statistical range. NAWC Warminster is an Interim Status Treatment, Storage and Disposal Facility (TSDF) under the RCRA statute for hazardous wastes. Controlled under this permit are two industrial waste storage impoundments, one storage building and one waste oil Underground Storage Tank (UST). NAWC was placed on the NPL in 1989 due to potential groundwater contamination. A Federal Facility Agreement (FFA) was signed in September 1990.

NAWC lies in the Delaware River drainage basin. Surface runoff empties into the Delaware River, which is about 10 miles away. Bedrock underlying NAWC belongs to the Stockton Formation, which is dominantly sandstone with occasional layers of shale. The top layer of bedrock is typically extensively weathered. Due to the high permeability of the weathered rock layer, the greatest migration pathway is laterally. Contaminants can be carried by this lateral flow until the groundwater is either discharged to streams, or dispersed into joints and fractures. Contaminant migration pathways are surface water, soil, soils to groundwater, and groundwater, potentially affecting both human and ecological receptors.

A Technical Review Committee (TRC) was formed in April 1988 and converted to a Restoration Advisory Board (RAB) in December 1993. The RAB has 15 members and they meet monthly. Although the public was involved with the TRC, the new RAB has proven to be more effective in community outreach and soliciting community involvement. An Information Repository is available to the public at the Bucks County Public Library in Doylestown, Pennsylvania.

In April 1993, off-base residential well sampling indicated groundwater contamination in two neighborhoods. Working with the EPA, the Navy installed water treatment systems for over 50 private homes with contamination greater than drinking water standards. Connections to the local municipal water system were completed in 1994. This action removed potential health risks to the local community.

Presently, there are nine CERCLA and one RCRA UST sites. As of the end of FY96, an Interim Removal Action (excavation) at Site 4 was in progress from FY96 and is now completed. A Phase III RI, for media other than groundwater, was conducted at most sites during FY 96 and a draft version of the report is available. A pump and treat system was initiated and long-term monitoring began for Operable Unit 3. Sites 4 and 8 were combined into an Operable Unit in FY 95. There are two sites in the study phase. Response is complete on UST 1. A Remedial Design was completed for Site 6.



WARMINSTER NAWCAD RELEVANT ISSUES

ENVIRONMENTAL RISK



HYDROGEOLOGY - NAWC lies in the Delaware River drainage basin. Surface runoff empties into the Delaware River, which is about 10 miles away. No constantly flowing streams course through the NAWC property. Intermittent streams are tributaries to Little Neshaminy and Southampton Creeks, which are used for light industrial purposes. Drainage patterns from the NAWC are radial with respect to the topographical high which bisects the property along the main east/west runway. Bedrock underlying NAWC belongs to the Stockton Formation, which is dominantly sandstone with occasional layers of shale. The top layer of bedrock is typically extensively weathered. The weathered rock ranges from eight to 25 feet thick. Soils in the vicinity are dominantly silt loams.

Depth to groundwater ranges from two to 14 feet below the land surface. A saturated zone is typically located at the base of the layer of weathered bedrock. Contaminants can be carried by lateral flow until the groundwater is either discharged to streams, or dispersed into joints and fractures. Water is supplied by seven on-site wells. Three other existing wells are contaminated with the organic solvents TCE and PCE and are not used for potable water. In June 1993, the Navy provided bottled water, filtration systems, and city water system hookups for two residential areas due to the presence of the organic solvent TCE contamination in drinking water wells.



NATURAL RESOURCES - The airfield provides a large open field habitat for many terrestrial mammals and birds. There are also small wooded areas bordering the airfield that provide habitat and cover. NAWC is divided between two drainage basins. There are two small tributaries of Little Neshaminy Creek to the north and headwaters of Southampton Creek to the south. Both local basins lie within the regional basin of the Delaware River. No known threatened or endangered species are present. Contaminated groundwater affects the Stockton Formation aquifer, which provides water for over 100,000 persons within Three miles of NAWC. Local surface water bodies are used for recreation and industrial purposes.



RISK - Of the nine CERCLA sites, one received a medium risk ranking and eight received high risk rankings under the Department of Defense (DOD) Relative Risk Ranking System. The high rank was determined by groundwater contamination for each of the eight sites ranked high. Contaminants include paints, oils, solvents, and metals. Groundwater will soon be undergoing treatment at all high risk sites.

REGULATORY ISSUES



NATIONAL PRIORITIES LIST - The installation was proposed for the National Priorities List (NPL) in 1986 with a Hazard Ranking System (HRS) score of 57.93. It was listed on the NPL in October 1989. A Pre-Record of Decision (ROD) for Sites 1-8 was signed on 4 October 1989.



LEGAL AGREEMENTS - A Federal Facility Agreement (FFA) was signed between the Department of the Navy (DON) and EPA on 20 September 1990. Operable Unit (OU) 1 was identified in December 1992 as containing Sites 1-3 and 5-7. The OU was addressed in a ROD signed in September 1993 for an interim remedy of a pump and treat system to treat groundwater.



PARTNERING - Successful partnering between the BRAC Cleanup Team (BCT) and the Restoration Advisory Board (RAB) resulted in compressing a project schedule to 15 months for study, design, and construction cost negotiations for the pump and treat system at OU 3. Another successful partnering effort between the BCT and the RAB was an RA for residential wells contaminated with the organic solvent TCE. A task order under the Comprehensive Long-Term Environmental Action Navy (CLEAN) contract was immediately started by Naval Facilities Engineering Command (NAVFAC), Northern Division (NORTHDIV). The

Navy distributed bottled water, installed temporary treatment systems on each affected well, and then coordinated with EPA and the local water authority to install water service to the residential areas. The quick teamwork by the BCT, RAB, and NORTHDIV was significant in gaining credibility with the community.

COMMUNITY INVOLVEMENT



RESTORATION ADVISORY BOARD - A Technical Review Committee (TRC) was formed in April 1988. They met regularly to address cleanup issues. The TRC was converted to a Restoration Advisory Board (RAB) in December 1993. The RAB has 15 members and they meet on a monthly basis. Although the public was involved with the TRC, the new RAB has proven to be more effective in community outreach and soliciting community involvement.



COMMUNITY RELATIONS PLAN - The Community Relations Plan (CRP) was drafted in FY90 and was updated in FY94.



INFORMATION REPOSITORY - An Administrative Record was established in December 1993. A copy of the Administration Record documents are contained in an Information Repository located at the Bucks County Public Library in Doylestown, Pennsylvania and at the Environmental Branch of the Public Works Office at NAWC and at NORTHDIV.

BASE REALIGNMENT AND CLOSURE



BRAC - NAWC Warminster was included on the 1991 Base Realignment and Closure (BRAC) list for realignment. The property was divided into eight parcels, with 353 acres identified as Community Environmental Response Facilitation Act (CERFA) clean. The 1995 BRAC Commission recommended NAWC for closure. Operations will be transferred to NAWC Patuxent River, Maryland, in September 1996. The closure date is anticipated to be March 1997, but the final property transfer date has not been determined. About 100 acres of the property will be retained by the Navy.



BRAC CLEANUP TEAM - The BRAC Cleanup Team (BCT) has been established and includes representatives from NORTHDIV, EPA Region III, and the Pennsylvania Department of Environmental Protection (DEP). The BCT works closely with the Federal Lands Reuse Authority of Bucks County and the Bucks County Commissioners to set goals and prioritize the remaining work. The BRAC Cleanup Plan (BCP) and an Environmental Baseline Survey (EBS) Phase I were completed in FY94. A Phase II EBS is planned for the future.



DOCUMENTS - The BRAC Cleanup Plan (BCP) and an Environmental Baseline Survey (EBS) Phase I were completed in FY94. A Phase II EBS is underway. A Final Draft Land Reuse Plan is currently being reviewed. The Environmental Condition Of Property (ECP) was developed using an EBS conducted by NORTHDIV and supplemented with additional information obtained through discussions with EPA Region III. These figures have not received regulatory concurrence. Additional information (aerial photographs, archive drawings and employee interviews) has recently been obtained and the EBS will be expanded to include this information. There are 53 Areas of Concern which have been identified and are being evaluated.

Environmental Conditions of Property Classification

1	2	3	4	5	6	7
353 acres	7 acres	0 acres	0 acres	7 acres	7 acres	359 acres

WARMINSTER NAWCAD RELEVANT ISSUES



LEASE/TRANSFER - There are 733 acres available for disposal. Currently, 160 acres are being leased on an Agricultural Outlease. Approximately 25% of the property is currently eligible for transfer by deed. The remaining property requires further evaluation.



FAST-TRACK INITIATIVES - Implementation of a pump and treat remedy for OU 3 proceeded on a fast track basis with construction being awarded almost concurrent with the signing of the ROD.



REUSE - A county reuse committee was formed to develop a Land Reuse Plan for Warminster, and to address social and economic issues. The Final Draft Land Reuse Plan has been completed.

HISTORICAL PROGRESS

FY85

Sites 1-9 - An Initial Assessment Study (IAS), and a Confirmation Study (CS), were completed that identified nine sites as potentially contaminated. The original Site 9 was closed out. The other eight sites were recommended for further study under a Remedial Investigation/Feasibility Study (RI/FS).

FY86

UST 1 - This Underground Storage Tank (UST) site was identified.

FY87

UST 1 - A leaking 1,000 gallon heating oil tank was removed.

FY90

UST 1 - Contaminated soil was removed and the site was closed out. No further UST remediations are expected.

FY91

Sites 1-8 - Phase I of the Remedial Investigation (RI) was completed.

FY93

Sites 1-3 and 5-7 - In June 1993, the Navy provided bottled water, filtration systems, and water hookups for two residential areas due to the presence of the solvent TCE contamination in drinking water wells. The RI/FS was completed and an interim groundwater Record of Decision (ROD) was signed.

FY94

Sites 4 and 8 - The RI/FS for groundwater was completed.
Sites 1-3 and 5-7 - The Remedial Design (RD) for groundwater was completed.

FY95

A Phase II Environmental Baseline Survey (EBS) - Initiated and is ongoing.
Sites 4 and 8 (OU 3) - The final ROD for extraction and treatment of groundwater was signed.

FY96

Sites 4 and 8 (OU-3) - RA for groundwater was completed. LTO/LTM, pump and treat operations were started.
Sites 5 and 7 - An RI/FS for groundwater was completed.
Site 9 (Area D) - Groundwater RI/FS activities were completed.
Site 4 - Source removal action was started.
Phase III RI/FS - Begun for all sites with media other than groundwater.
FOSL - FOSL for Bldg. 108 signed out of NORTHDIV.
EBS Phase II - Ongoing investigation of 53 Areas of Concern.
UST 1 - Phase II design was started and completed. Tanks were removed; soil investigations continue. Listed RC.

PROGRESS DURING FISCAL YEAR 1997

FY97

Draft Phase III RI/FS (media other than groundwater) submitted for comments
OU-4 - Interim groundwater Record of Decision (ROD) for Area D (OU-4) was signed.
Site 4 - Source removal action was completed.
Site 6 - Source removal action was started and completed. Ongoing Site 6 investigations to determine additional source removal, if any.

OU-1 - Prepare revised Extraction Well Plan for OU-1
OU-3 - LTO/LTM.
EBS Phase II - Complete Area of Concern investigation. Initiate course of action.
UST 1 - Phase II, completed tank and soil removal.
FOST - FOST for 129 acres of agricultural outlease property was signed.
FOSL - FOSLs for the following were signed: Buildings 7/99; 1/3 (partial); 125/138; 1 and 2 (selected spaces)/35.

PLANS FOR FISCAL YEARS 1998 AND 1999

FY98

Complete land and building lease/transfer.
EBS Phase II - Finalize remedial/removal actions.
OU-1 - Complete the groundwater IRA for Area A (OU-1).
OU-4 - Complete the groundwater IRA for Area D (OU-4).
OUs 1 and 3 - LTM/LTO.
Sites 4 and 6 - Issue No Further Action (NFA) RODs for source removal at Sites 4 and 6.

Site 8 - Determine what further action, if any, is needed for Site 8 source removal. Conduct source removal, if needed.
OU-1 - Sign final ROD for OU-1.
Areas A and D - Initiate source removal for Areas A and D.
Sites 5 and 7 - Conduct field investigation.
EBS Phase II - Close out EBS Phase II Areas of Concern.
FOSL - Continue to issue FOSLs.
FOST - Issue FOST for remaining 39 acres of agricultural property.

WARMINSTER NAWCAD PLANS FOR FISCAL YEARS 1998 AND 1999

FY99

OUs-1, 3 and 4 - LTM/LTO.

Areas A and D - Complete source removal for Areas A and D.

Site 5 - Conduct source removal, if needed.

OU-4 - Sign final RO.

FOST - Issue remaining FOSTs.

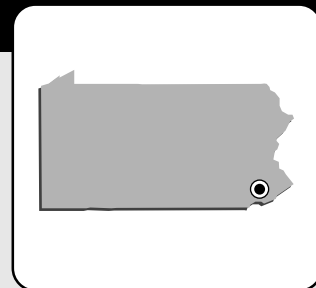
PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	9							
RI / FS	3	4	2					
RD	1	3	5					
RAC		2	7					
RAO								7
IRA		2(2)	7(11)					
RC			2					7
Cumulative % RC	0%	0%	22%	22%	22%	22%	22%	100%
UST	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
SA								
CAP								
DES	1							
IMP	1							
IMO								
IRA	1(2)							
RC	1							
Cumulative % RC	100%	100%	100%	100%	100%	100%	100%	100%

WILLOW GROVE NAVAL AIR STATION

WILLOW GROVE, PENNSYLVANIA

Engineering Field Division/Activity: NORTHDIV
 Major Claimant: COMNAVRESFOR
 Size: 1,090 Acres
 Funding to Date: \$4,318,000
 Estimated Funding to Complete: \$34,368,000



Base Mission: Reserve Naval Air Station for training of aviation activities

Contaminants: Heavy metals, PCBs, POLs, solvents

Number of Sites:

CERCLA: 11
 RCRA Corrective Action: 0
 RCRA UST: 2
 Total Sites: 13

Relative Risk Ranking of Sites:

High: 4 Not Evaluated: 0
 Medium: 1 Not Required: 7
 Low: 1

NPL

Sites Response Complete: 7

EXECUTIVE SUMMARY

The Naval Air Station Joint Reserve Base (NASJRB) Willow Grove is located 25 miles northeast of Philadelphia, Pennsylvania and consist of 1,090 acres. The Navy acquired the airfield in 1942, and has used it to train pilots ever since then. The major operations on base that contributed to the environmental problems were the landfilling of paint wastes, the conducting of fire fighter training, and the storing of fuel. The primary contaminants of concern are heavy metals, the chemical additive PCBs, petroleum products, and solvents. A Federal Facilities Agreement (FFA) is planned to be initiated in FY98. NASJRB Willow Grove is not in the process of applying for, renewing, or modifying a RCRA permit; therefore, no RCRA corrective action is required.

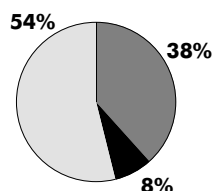
Although no perennial streams are located within the boundaries of NASJRB Willow Grove, tributaries of the Pennypack and Little Neshaminy Creeks extend to within 1/4 mile of NASJRB Willow Grove. Pennypack Creek is designated a warm water fishery by the Pennsylvania Department of Environmental Resources and trout stocking is practiced in Little Neshaminy Creek. Runoff from surface areas is conveyed by a storm drainage system to one of several outfalls to Pennypack Creek or Park Creek (a tributary of Little Neshaminy Creek). NASJRB Willow Grove lies on the Stockton aquifer, which is the primary source of drinking water in the region.

Subsequent to the NPL listing of NASJRB Willow Grove, the installation established a Restoration Advisory Board (RAB) and prepared a Community Relations Plan (CRP). Interested parties from the community have contacted the installation about becoming RAB members. The first RAB meeting was held on August 29, 1996. RAB meetings have been held on a quarterly basis since. An update to the CRP will be submitted in FY98. The plan will provide fact sheets, press releases, and public notices. An Administrative Record (the official file) was established in March 1991 and is maintained by the Navy. The information in the Administrative Record was placed in two Information Repositories, established in 1991, for public access.

There are a total of 13 Installation Restoration (IR) sites, 11 are CERCLA sites and two are RCRA Underground Storage Tank (UST) sites. Currently, there are five sites in the study phase. An Interim Remedial Action (IRA) was completed for Site 10 in FY95. An Remedial Investigation (RI) for four sites, completed in FY93, recommended a Phase II Remedial Investigation/Feasibility Study (RI/FS) to fill data gaps and provide alternatives for cleanup actions. In 1995, preparation of a Phase II RI/FS Work Plan was initiated for Sites 1, 2, 3, 5 and 11. This workplan was finalized in FY97, however, due to funding constraints, Site 11 was removed. An RI is planned for Site 11 in FY98. Fieldwork, implementing the Phase II RI workplan was completed during FY97. Decision documents recommending No Further Action (NFA) for Sites 4, 6, 7, 8 and 9 have been submitted to EPA Region III. To date, no correspondence has been received regarding their concurrence with the Navy's NFA recommendations.

In FY97, the FS for Sites 1, 2, 3 and 5 was funded. The remainder of FY97 was devoted to preparation and preliminary review of the Phase II RI Report for Sites 1, 2, 3 and 5. Also in FY97, a Preliminary Site Management Plan (SMP) was developed to support the upcoming FFA negotiations with EPA Region III. Finally in FY97, a Decision Document was prepared for free-product recovery at Site 10. The decision was based upon the results of the free product recovery pilot study which was completed in FY96. During FY97, funding was received for both the design and installation of the recovery system at Site 10. Installation has been completed and startup of the system is anticipated in early FY98. Finally in FY98, a Record of Decision for Site 1 is planned for completion.

Current Status Of Sites



■ Studies Underway 5
 ■ Cleanups Underway 1
 □ Response Complete 7
TOTALS 62

WILLOW GROVE NAS RELEVANT ISSUES

ENVIRONMENTAL RISK



HYDROGEOLOGY - Although no perennial streams are located within the boundaries of NASJRB Willow Grove, tributaries of the Pennypack and Little Neshaminy Creeks extend to within 1/4 mile of NASJRB Willow Grove. Surface water that is not retained in either the Recreational Pond or the Captain's House Pond is conveyed to one of several outfalls to the Pennypack Creek or Park Creek (a tributary of Little Neshaminy Creek). The soils at NASJRB Willow Grove are conducive to infiltration of rainfall. NASJRB Willow Grove lies on the outcrop of the middle member of the Stockton Formation. The Stockton Aquifer is the primary source of drinking water in the region. NASJRB Willow Grove by virtue of its location on the outcrop of the Stockton Formation, is in the recharge area for this aquifer. Of the rainfall which infiltrates into the soil, approximately half will eventually percolate to the water supply aquifer of the Stockton aquifer and be withdrawn by supply wells. Volatile Organic Compounds (VOCs) have been identified in the potable water supply wells at NASJRB Willow Grove in concentrations which exceed the Ambient Water Criteria of the EPA. The Privet Road Compound (Site 1), the 9th Street Landfill (Site 3), and the Fire Training Area (Site 5), were found to be sources of contamination to the water-table aquifer. The Antenna Field Landfill (Site 2) was found to be a source of the pesticide dieldrin found in surface water.



NATURAL RESOURCES - Wildlife species occurring at NASJRB Willow Grove are those that commonly occur near urbanized areas. It has been determined that endangered and threatened wildlife or plants as recognized by the State of Pennsylvania may be within the boundaries of NASJRB Willow Grove specifically the plant Hairy Beadgrass and the aquatic species Pearl Mussel. Both ponds on the base are available for fishing by military personnel. Pennypack Creek is designated a warm water fishery by the Pennsylvania Department of Environmental Resources and trout stocking is practiced in Little Neshaminy Creek. There are no known sites or buildings on NASJRB Willow Grove that have been listed or determined to be eligible for listing on the National Register of Historic Places.



RISK - An EPA Baseline Risk Assessment, both ecological and human health will be done as part of the Phase II RI. For the Department of Defense (DOD) Relative Risk Ranking System, four of the CERCLA sites were determined to have a high ranking. These sites were ranked primarily due to known contamination to groundwater and identified migration pathways to water supply wells. A Public Health Assessment (PHA) is required to be performed by the Agency for Toxic Substances and Disease Registry (ATSDR) and the Navy Environmental Health Center (NEHC) due to the NPL listing. ATSDR conducted a site visit in June 1996 to establish a site ranking for the Activity. Based upon their observations and site ranking scheme, NASJRB Willow Grove received a "D" classification which makes it low on ATSDR's priority list. One site received a medium risk-ranking, and one received a low risk-ranking.

REGULATORY ISSUES



NATIONAL PRIORITIES LIST - The HRS score for NASJRB Willow Grove was 50.00. The NAS was listed on the NPL in September of 1995. This score was primarily based upon chlorinated hydrocarbons found in the water table aquifer and the pesticide dieldrin in the surface water.



LEGAL AGREEMENTS - For the CERCLA sites, it is planned to initiate an FFA in FY98. The FFA will be between the Department of the Navy, and the EPA Region III. Decision documents that are outdated will be revisited during FFA negotiations for Sites 4 and 6-9. For the two RCRA Underground Storage Tanks (USTs), Corrective Action was completed.



PARTNERING - Prior to Willow Grove's listing on the NPL in September 1995, no formal partnering had taken place. However, now that EPA Region III's involvement has increased, partnering will be integrated into the overall IR process for Willow Grove.

COMMUNITY INVOLVEMENT



RESTORATION ADVISORY BOARD - A Technical Review Committee (TRC) was formed in FY90 and was very active. Fact sheets were provided for public meetings. Subsequent to the recent NPL listing of NASJRB Willow Grove, the installation initiated the establishment of a Restoration Advisory Board (RAB). The first RAB meeting was held on August 29, 1996. RAB meetings have been held on a quarterly basis since.



COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) was development and a final version will be submitted during FY98. The plan will provide fact sheets, press releases and public notices.



INFORMATION REPOSITORY - An Administrative Record (the official file) was established in March 1991 and is maintained by the Navy. The information in the Administrative Record was placed in two Information Repositories, established in 1991, for public access. They are located at the Horsham Township Municipal Building and at the base Environmental Department. The Information Repositories are updated regularly by the Navy.

WILLOW GROVE NAS HISTORICAL PROGRESS

FY86

Sites 1-9 - An Initial Assessment Study (IAS), equivalent to a Preliminary Assessment (PA), completed in February 1986, identified nine potentially contaminated sites at NASJRB Willow Grove. Of the nine sites identified, four sites (Sites 6-9) were determined not to pose a threat to human health or the environment. Five sites (Sites 1-5) were recommended for further investigation because of potential surface and groundwater contamination. Although the recommendation was for further study only at Sites 1-5, all nine sites were included in the SI.

FY88

UST 1 - A waste oil tank was removed.

FY89

USTs 1 and 2 - The Initial Site Characterizations (ISCs) were completed. Contaminated soil and a smaller abandoned tank at UST 1 were found and removed during the removal action. Corrective Action was completed.

FY90

Sites 1-10 - An SI for the original nine sites plus a new site, Site 10, Navy Fuel Farm, was completed in May 1990 and recommended No Further Action (NFA) for Sites 4, 6, 8 and 9. An extended SI was recommended for Site 7 because of trace levels of methylene chloride (a common laboratory contaminant). Sites 1-3 and Site 5 were recommended for an RI/FS. Sites 1, 3 and 5 were determined to be sources of chlorinated hydrocarbons in the water-table aquifer.

FY91

Sites 4, 6, 8, 9 and UST 2 - At the former NEX Service Station, UST 2, two gasoline tanks and associated contaminated soils were removed and the Corrective Action was completed. A Decision Document was finalized in June 1991 advising all agencies of the finding of NFA and site close-out for Sites 4, 6, 8 and 9. Copies were forwarded to the EPA and State of Pennsylvania notifying them of this action.

FY92

Site 7 - A Decision Document was finalized for Site 7.

FY93

Site 11 - During construction of an Air National Guard facility at NASJRB Willow Grove, a new site was found. Site 11, Aircraft Apron, was discovered while digging for drainage when a petroleum odor was detected. Site 11 was initially used as a defueling area for tank trucks. Preliminary sampling has indicated the presence of petroleum products. The contractor finished grading the area for drainage in appropriate personal protective equipment. **Sites 1-11** - At the end of the PA/SI phase, six of 11 CERCLA sites (Sites 1-3, 5, 10 and 11) were scheduled to move into the RI/FS phase. Five sites (Sites 4 and 6-9) were closed out.

Sites 1, 2, 3 and 5 - The RI recommended a Phase II RI/FS be conducted to fill in data gaps and provide alternatives for Remedial Actions (RAs) at Sites 1, 2, 3 and 5. This Phase II RI/FS was to be awarded in FY93, but since NASJRB Willow Grove was not on or proposed for the NPL and carried a low funding priority, the Phase II RI/FS was delayed.

Site 10 - A Remedial Design (RD) was started. A pilot recovery system for free-product removal was installed.

Site 11 - Environmental investigations were put on hold due to this site's low risk ranking.

FY94

Site 10 - The free product recovery pilot system continued to operate.

FY95

Sites 1-3 and 5 and 11 - A work plan for a Phase II RI was initiated. Due to funding constraints and Site 11's low risk ranking, the site was removed from the workplan.

Site 10 - Completed a removal action for 6,000 cubic yards of soil, which had been stockpiled at the Navy Fuel Farm. The free product recovery pilot system continued to operate.

FY96

Sites 1-3 and 5 - Work continued on the development of the Phase II RI Work Plan. A second review period was established due to the recent establishment of the Willow Grove RAB.

All Sites - Negotiated and funded a Site Management Plan to support upcoming FFA negotiations with EPA Region III.

Site 10 - Operation of the pilot study of free product recovery at the Navy Fuel Farm was completed.

All Sites - Established a Restoration Advisory Board and held kickoff meeting in August. Work on the CRP continued.

PROGRESS DURING FISCAL YEAR 1997

FY97

Sites 1-3 and 5 - The Phase II RI Fieldwork was completed. Development of the Phase II RI Report was initiated.

Site 10 - Completed RD. A Decision Document was prepared and approved by PADEP. Design and Installation of the full-scale LNAPL recovery system was also completed.

PLANS FOR FISCAL YEARS 1998 AND 1999

FY98

Sites 1-3 and 5 - Initiate development of the Feasibility Study.

Site 1 - Prepare a Record of Decision (ROD) for preferred remedy. Implement an IRA for removal of PCB "hot-spot".

Site 10 - RA construction completion planned. Start up and operate newly-installed, full-scale LNAPL recovery system.

Site 11 - Prepare workplan and initiate RI activities.

All Sites - Finalize the Community Relations Plan. Finalize the Site Management Plan and initiate FFA negotiations EPA Region III.

FY99

Site 1 - Initiate and complete a design for the preferred alternative.

Sites 1, 2 and 5 - Complete the RI/FS.

Site 10 - Continue operation of full-scale LNAPL recovery system.

WILLOW GROVE NAS PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	11							
RI / FS	1			3	2			
RD		1			1	1	2	1
RAC			1			1		4
RAO								5
IRA	1(1)				2(2)			2(2)
RC	5							6
Cumulative % RC	45%	45%	45%	45%	45%	45%	45%	100%
UST	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
SA								
CAP								
DES								
IMP	2							
IMO								
IRA	2(2)							
RC	2							
Cumulative % RC	100%	100%	100%	100%	100%	100%	100%	100%

WYOMING MARINE CORPS RESERVE CENTER

WYOMING, PENNSYLVANIA

Engineering Field Division/Activity: NORTHDIV

Major Claimant: CMC

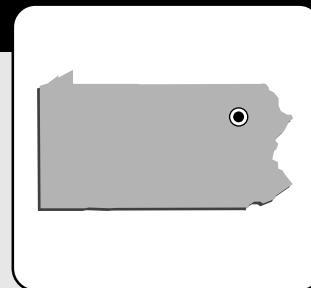
Size: 3 Acres

Funding to Date: \$0

Estimated Funding to Complete: \$0

Base Mission: Maintains heavy equipment

Contaminants: POLs



Number of Sites:

CERCLA: 2

RCRA Corrective Action: 0

RCRA UST: 0

Total Sites: 2

Relative Risk Ranking of Sites:

High: 0 Not Evaluated: 0

Medium: 0 Not Required: 2

Low: 0

Sites Response Complete: 2	

PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	2							
RI / FS								
RD								
RAC								
RAO								
IRA		2(2)						
RC	2							
Cumulative % RC	100%	100%	100%	100%	100%	100%	100%	100%